

### **AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

#### **LISTING OF CLAIMS:**

1. (currently amended) A Transmitter for Free Space Optical transmission systems, the transmitter including: at least one convergent lens having a corresponding focal point located at a focal distance ( $f$ ) from the convergent lens along an optical axis; and at least one source of light situated behind the convergent lens in order to produce a beam of light carrying a signal to be transmitted on air, the at least one source of light being situated at a source distance ( $f_i$ ) from the convergent lens, ~~characterised in that it also includes~~ means for changing the source distance ( $f_i$ ) for changing the angle of divergence ( $\alpha$ ) of the beam of light in a corresponding manner,  
characterized in that said means for changing the source distance ( $f_i$ ) are operable so as to maintain a wide angle of divergence ( $\alpha$ ) in good visibility conditions of the link, namely in conditions that are sufficient to guarantee the quality of the link, and to reduce the angle of divergence ( $\alpha$ ) proportionally to worsening of environmental conditions along the link.

2. (currently amended) A Transmitter according to claim 1, characterised in that said means for changing the source distance ( $f_i$ ) include means capable of reducing the source distance ( $f_i$ ) ~~and of increasing~~ so as to increase in a corresponding manner the angle of divergence of the beam of light and means capable of increasing the source distance ( $f_i$ ) so as to decrease or substantially cancel out the angle ~~of ( $\alpha$ )~~ of divergence.

3. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said means for changing the source distance ( $f_i$ ) are responsive to information concerning the level of power received by a local optical receiver.

4. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said means for changing the source distance ( $f_i$ ) include one or more stepping motors and one or more worm gears.

5. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said means for changing the source distance ( $f_i$ ) include magnetic transducers ~~or other similar devices.~~

6. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said at least one source of light includes a laser light source or an optical fibre termination.

7. (currently amended) A ~~T~~ransceiver for Free Space Optical (FSO) transmission systems, characterised in that it includes one or more transmitters according to claim 1.

8. (currently amended) A Free Space Optical (FSO) transmission system, characterised in that it includes at least two transceivers according to claim 7.

9. (currently amended) ~~A~~Method for providing, in a transmitter for Free Space Optical transmission systems, a variable-divergence laser beam, said method including the following steps: ~~provision~~providing of at least one convergent lens having a corresponding focal point situated at a focal distance ( $f$ ) from the at least one convergent lens along ~~aan~~ optical axis; and ~~provision~~providing of at least one source of light situated behind the at least one convergent lens for producing a beam of light carrying a signal to be transmitted on air, the at least one source of light being situated at a source distance ( $f_i$ ) from the at least one convergent lens, ~~characterised in that it includes the step of~~and changing the source distance ( $f_i$ ) in order to alter the angle of divergence ( $\alpha$ ) of the beam of light in a corresponding manner,

characterized in that said step of changing the source distance ( $f_i$ ) is carried out so as to maintain a wide angle of divergence ( $\alpha$ ) in good visibility conditions of the link, namely in conditions that are sufficient to guarantee the quality of the link, and to reduce the angle of divergence ( $\alpha$ ) proportionally to worsening of environmental conditions along the link.

10. (currently amended) ~~A~~Method according to claim 9, characterised in that the step of changing the source distance ( $f_i$ ) includes the step of shortening the source distance ( $f_i$ ) in order to increase the angle of divergence ( $\alpha$ ) of the beam of light in a corresponding ~~manner and the step of increasing the source distance ( $f_i$ ) in order to decrease or substantially cancel out the angle ( $\alpha$ ) of divergence.~~

11. (currently amended) ~~A~~ A method according to claim 9, characterised in that the step of changing the source distance ( $f_i$ ) takes place in response to information concerning the level of power received from a local optical receiver.

12. (new) A method according to claim 9, characterized in that the step of changing the source distance ( $f_i$ ) includes the step of increasing the source distance ( $f_i$ ) in order to decrease or substantially cancel out the angle ( $\alpha$ ) of divergence